

Rosmi Reji

University of Illinois at Chicago (UIC)-Chicago USA

Current Position

Graduate Student (Chemistry) - *University of Illinois at Chicago*
Visiting Graduate Student - *Argonne National Laboratory*

Research Interest

I am interested in photochemistry and spectroscopy. My current research project aims to study excited state behavior of photo-active materials particularly metal organic frameworks (Mofs), novel photocatalysts etc. This include extensive use of ultrafast transient absorption spectroscopy along with some theoretical studies.

Education

Chemistry Ph.D Program *August 2021 - Present*
Research advisor- Prof. Ksenija D Glusac
Department of Chemistry
University of Illinois at Chicago (UIC) Illinois USA

BS-MS Dual Degree Program *August 2016 - May 2021*
Department of Chemical Science
CPI: 9.0/10
Indian Institute of Science Education and Research, (IISER) Mohali, India

Higher Secondary Education *2014 - 2016*
St. Anne's Higher Secondary School, Kurianad, India Percentage: 98.25%

Secondary School Education *2013-2014*
St. Anne's Higher Secondary School, Kurianad, India Percentage: 100%

Research Experience

Master's Thesis.....

Structure correlated study on C10-(H) Arylated N-(pyren-1-yl) picolinamide towards multiple metal cation sensing

Supervisor : [Dr. Sanchita Sengupta](#), Assistant Professor, IISER Mohali, India 2020 Aug- 2021 Apr

- Investigates the spectral behaviour of pyreneamide derivatives in the presence of different metal cations and attempts to elucidate the recognition mechanism by means of varied spectroscopic and theoretical studies.

Summer Internships.....

Supramolecular assemblies for excitation energy transfer and biological applications

Supervisor : [Dr. Sanchita Sengupta](#), Assistant Professor 2020, June- July
Department of Chemical Science IISER Mohali, India

- Learned about novel supramolecular designs for excitation energy transfer and their smart applications in artificial light harvesting, bioimaging, biosensing, etc.

Synthesis and characterisation of bimetallic nanosponges and catalytic application in the direct hydrogenation of aromatic hydrocarbons

Supervisor : [Prof. Balaji R. Jagirdar](#) Professor

2019, May- June

Department of Inorganic and Physical Chemistry (IPC), Indian Institute of Science (IISc), Bangalore, India

- o Gathered skills in the preparation and handling of nanomaterials and expertised in basic material characterisation techniques including Uv/Vis, PXRD, NMR, SEM and Mass Spectrometry

Iron(III) oxide catalyzed organic transformations based on Friedel craft acylation.

Supervisor : [Dr. S. Arulananda babu](#) Associate Professor, IISER Mohali

2018, May- June

- o Fostered skills in setting up multi-step organic synthesis reactions, in separation and purification methods and in structural determination using NMR spectroscopy.

Temporal oscillation in *Passiflora incarnata*

Supervisor : [Prof. N.Sathyamurthy](#) Honorary Professor and Founder Director, IISER Mohali

2017, May- June

- o Trained in handling large datasets and in rigorous data analysis using mathematical tools like Fourier transformation for modeling the system under study.

Publication

- o Reji,R.; Tripathi, N.P.; Rani,K.; Dalal,A.; Babu,S.A.; Sengupta,S. *Structure-Property Correlation of C10-(H)-Arylated-N-(pyren-1-yl)-picolinamide Regioisomers towards Cu 2+ and Fe 3+ . ChemistrySelect* **2021**;6(43):12022-12031.[doi:10.1002/slct.202103030](#)
- o Goyal, S.; Reji, R.; Tripathi, S. S.; Sathyamurthy, N. *Synchronous Pulsed Flowering in Passion Flower (*Passiflora incarnata*). Curr. Sci.* **2019**, 117 (7)., [doi:10.18520/cs/v117/i7/1211-1216](#)

Skills and Expertise

Technical Skills

Analytical Techniques: UV-Vis Spectroscopy, FTIR, ATR, Fluorescence Spectroscopy (Steady-state and time-resolved), Time Correlated Single Photon Counting (TCSPC), Delayed Fluorescence Spectroscopy, NMR, HPLC, ESI-MS, PXRD, SEM, EDS, Parr reactor.

Computing Skills

Programming Languages: Python, XML, SQL

Data Analysis and Softwares: Origin pro, ChemDraw, Gaussview 5.0, Avagadro, ImageJ, Atom, LaTeX

Awards and Fellowships

- 1: Recipient of **INPIRE-Fellowship** funded by Department of Science and Technology (DST) of Govt. of India to pursue BS-MS Program (2016-2020).
- 2: Secured **scholarship from Department of Science and Technology, India** to undertake summer internship (2017-2020).
- 3: Achieved **C. V. Serma-Mythreyamma Summer Research Fellowship-2019** from Inorganic and Physical Department of IISc Bangalore, India to conduct summer internship.

Scientific Events

- o Volunteered the **Recent Advances in Organic and Bioorganic Chemistry (RAOBC)- 2019** organized by IISER Mohali in association with the Royal Society of Chemistry, held at IISER Mohali.
- o Attended **24th National Conference on Liquid Crystals (NCLC)- 2017** organized by Department of Chemical Science in association with Indian Liquid Crystal Society held at IISER Mohali.
- o Participated in **DST-INSPIRE Internship Science Camp, 2014** organized by Deva Matha College, Kuravilangad under the sponsorship of Department of Science and Technology, Govt. of India.

Languages

English: TOEFL iBT- 90 (Reading-25, Listening-21, Speaking-22, Writing-22)

Malayalam: Mother tongue

Hindi: Basic knowledge in speaking and writing

Miscellaneous

Aug 2021- Present: Teaching Assistant in Chemistry Dept., UIC, Chicago, USA.

- o Leading active discussion session for students in CHEM 122 General Chemistry-I course and training students in CHEM 123 General Chemistry Laboratory-I.

Aug 2020- May 2021: Managed Network Expert in Chegg, Inc.

- o Carry out the role of subject expert in Chemistry and tutors students online in a worldwide educational technology company. in Chemistry on an online tutoring platform.

2018-Present: Curie Club- IISER Mohali Chemistry Community

- o Participated in club events and organized events during Curie weeks.

2017-present: Member of College Women Volleyball team

- o Gold medal winner in Inter IISER Sports Meet-2018 held at Bhubaneswar, India.

Participated in various programs organized by the student wing of Red Cross Society with a vision to promote humanitarian ideas and activities among youth.

Referees

- o **Prof. Ksenija D Glusac**

Professor, Department of Chemistry, University of Illinois at Chicago (UIC) Illinois, USA. Email: glusac@uic.edu

Website: [Glusac research group](#)

- o **Dr. Sanchita Sengupta**

Assistant Professor, Department of Chemical Sciences, IISER Mohali, Sector 81, SAS Nagar, Punjab 140 306, India.

Email: sanchita@iisermohali.ac.in

Website: [Organic \(Opto\)electronic Materials Lab](#)